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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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SUGI0064

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05/10/2006

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EXAMINER

LEUNG, JENNIFER A

ART UNIT

PAPER NUMBER

1764

DATE MAILED: 05/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/773,605

Applicant(s)

OHMI ET AL.

Examiner

Jennifer A. Leung

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 27 February 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,22,23,25,26,28 and 30-37 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,22,23,25,26,28 and 30-37 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on February 27, 2006 has been entered.

### ***Response to Amendment***

2. Applicant's amendment submitted on February 27, 2006 has been received and carefully considered. Claims 2-21, 24, 27 and 29 are cancelled. Claims 1, 22, 23, 25, 26, 28 and 30-37 are under consideration.

3. The declaration filed under 37 CFR 1.132 on February 27, 2006 is insufficient to overcome the rejection of claims 23, 25, 26, 30-33, 35 and 36 based upon insufficiency of disclosure under 35 U.S.C. 112, first paragraph as set forth in the last Office action because the declaration merely relies on an expert's opinion on the expectations of one having ordinary skill in the art, without presenting of any factual support as to why one having ordinary skill in the art would have such expectations. See M.P.E.P. 716.01(c), III. In view of the foregoing, when all of the evidence is considered, the totality of the rebuttal evidence of nonobviousness fails to outweigh the evidence of obviousness.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode

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contemplated by the inventor of carrying out his invention.

4. Claims 23, 25, 26, 30-33, 35 and 36 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Regarding claim 23, it is unclear as to where support may be found for the structural limitation that, "the plate has a thickness exceeding one half of the first distance," (line 25). It is noted that the specification merely sets forth that the plate is "relatively thick" (see page 2, lines 12-15). Although applicant points to FIG. 6 in support of the amendment, Patent Office drawings cannot be relied upon for detail as to disclosure since they are not to scale. Also, it is noted that the thickness of the plate varies along its radial direction. Although the thickness of the plate may appear to exceed one half of the first distance at its center, the thickness of the plate clearly does not exceed one half of the first distance at its periphery.

Regarding claim 26, it is unclear as to where support may be found for the structural limitation that, "the first reflector is a thick plate that includes... a thickness exceeding one half of the first distance," (lines 20-22). It is noted that the specification merely sets forth that the plate is "relatively thick" (see page 2, lines 12-15). Although applicant points to FIG. 6 in support of the amendment, Patent Office drawings cannot be relied upon for detail as to disclosure since they are not to scale. In addition, it is noted that the thickness of the plate varies along its radial direction. Although the thickness of the plate may appear to exceed one half of the first distance at its center, the thickness of the plate clearly does not exceed one half of the first distance at its periphery.

### ***Double Patenting***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

5. Claims 1, 22, 28, 34 and 37 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-10 of U.S. Patent No. 6,919,056 (hereinafter US '056) in view of Ohmi et al (EP 0 878 443).

Regarding the instant claims 1, 22 and 28, claims 1-10 of U.S. '056 are generally directed toward the two-reflector embodiments shown in FIGs. 1 and 5. U.S. '056 substantially claims each of the elements claimed in the present application, including: a reactor having an upstream gas inlet side, a downstream moisture outlet side, and a catalyst for generating moisture from hydrogen and oxygen (see reference claim 1, lines 2-3 and 23-30); a first reactor structural component (i.e., a reactor structural component on the inlet side; reference claim 1); a second reactor structural component (i.e., a reactor structural component on the outlet side; reference

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claim 1); a first reflector with a beveled peripheral portion (i.e., an inlet reflector with a tapered portion formed at peripheral edge portions; reference claim 1, lines 15-18 and 31-43); and a second reflector (i.e., an outlet reflector with a tapered portion formed at peripheral edge portions; reference claim 1, lines 19-22 and 31-43); wherein the beveled peripheral portion is such that a distance between each first or second reflector and its respective closest first or second structural component is increasing in a direction towards the outer edge of the reflector (i.e., characteristic of the gap and tapered angle against the flat bottom of a round recession, as claimed in lines 31-43, for describing FIG. 1). Please note that the recited reactor temperatures (e.g., instant claim 1, lines 2-5) and pressures (e.g., instant claim 22) are process limitations that provide no further patentable weight to apparatus claims.

U.S. '056 is silent as to claiming a means for reducing pressure provided on the downstream side of the reactor, wherein the reactor is connected to a process chamber via said means for reducing pressure. In any event, it would have been obvious for one of ordinary skill in the art at the time the invention was made to incorporate such elements in the apparatus claimed in U.S. '056, on the basis of suitability for the intended use thereof, because the claimed configuration of the elements is conventional, as evidenced by Ohmi et al. In particular, Ohmi et al. (FIG. 45; page 19, line 10 to page 20, line 11) teaches a system employing a moisture generating reactor, wherein a means for reducing pressure (i.e., a filter F3) provided on the downstream side of the reactor 33 and wherein the reactor is connected to a process chamber (i.e., semiconductor manufacturing equipment 40) via said means F3 for reducing pressure.

Regarding claims 34 and 37, although U.S. '056 is silent as to fastening the reflectors to the structural components by means of bolts, it would have been obvious for one of ordinary skill

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in the art at the time the invention was made to select a suitable fastening means, such as bolts, for fastening the reflectors to the structural components in the claimed apparatus of U.S. '056 because the Examiner takes Official Notice that bolts are well known means for fastening two elements together.

6. Claims 23, 25, 26, 30-33, 35 and 36 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-20 of U.S. Patent No 7,008,598 (hereinafter US '598) in view of Ohmi et al (EP 0 878 443).

Regarding the instant claims 23, 25, 26 and 30-33, claims 1-20 of U.S. '598 are generally directed to the single-reflector embodiment shown in FIG. 4. U.S. '598 substantially claims each of the elements claimed in the present application, including: a reactor having an upstream gas inlet side, a downstream moisture outlet side and a catalyst for generating moisture from hydrogen and oxygen (reference claim 1, lines 2-3 and 18-25); a first reactor structural component (a reactor structural component on the inlet side; reference claim 1, line 4); a second reactor structural component (a reactor structural component on the outlet side; reference claim 1, line 5); and a reflector with a beveled peripheral portion (a taper formed on the peripheral edge portion of the reflector; reference claim 1, lines 26-36) and a thickness exceeding one half of the first distance (see reference claim 20, lines 15-19); wherein the beveled peripheral portion is such that a distance between the reflector and the second reactor structural component is increasing in a direction towards the outer edge of the reflector (i.e., characteristic of the gap and tapered angle against the flat bottom of the round recession; see reference claim 1, lines 26-36 and FIG. 4). Please note that the recited reactor temperatures (e.g., instant claim 23, lines 3-6),

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pressures (e.g., instant claim 25), and rate of moisture generation (e.g., instant claim 33) are process limitations that provide no further patentable weight to apparatus claims.

U.S. '598 is silent as to claiming a means for reducing pressure provided on the downstream side of the reactor, wherein the reactor is connected to a process chamber via said means for reducing pressure. In any event, it would have been obvious for one of ordinary skill in the art at the time the invention was made to incorporate such elements in the apparatus claimed in U.S. '598, on the basis of suitability for the intended use thereof, because the claimed configuration of the elements is conventional, as evidenced by Ohmi et al. In particular, Ohmi et al. (FIG. 45; page 19, line 10 to page 20, line 11) teaches a system employing a moisture generating reactor, wherein a means for reducing pressure (i.e., a filter F3) provided on the downstream side of the reactor 33 and wherein the reactor is connected to a process chamber (i.e., semiconductor manufacturing equipment 40) via said means F3 for reducing pressure.

Regarding claims 35 and 36, although U.S. '598 is silent as to fastening the reflector to the structural component by means of bolts, it would have been obvious for one of ordinary skill in the art at the time the invention was made to select a suitable fastening means, such as bolts, for fastening the reflector to the structural component in the claimed apparatus of U.S. '598 because the Examiner takes Official Notice that bolts are well known means for fastening two elements together.

### ***Response to Arguments***

7. Applicant's arguments regarding the rejections made under 35 U.S.C. 112, first paragraph, have been fully considered but they are not persuasive. Applicants (end of page 9 to end of page 10) argue that the limitation of "the plate has a thickness exceeding one half of the



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first distance” is supported by the drawings, and should be withdrawn in view of the newly filed declaration. As commented above, the Examiner asserts that the declaration is insufficient to overcome the rejection of claims 23, 25, 26, 30-33, 35 and 36 under 35 U.S.C. 112, first paragraph. The statements made in the declaration merely amount to an expert’s opinion on the expectations of one having ordinary skill in the art, without the presentation of any facts or evidence to show why one of ordinary skill in the art would have had such an expectation.

Applicants further point to Fig. 12 to rebut the Examiner’s assertion that the drawings are not to scale. However, it is noted that Fig. 12 is a plan view of the structural component 3 on the outlet side of the reactor. Although one of ordinary skill in the art may be able to infer an approximate diameter of the structural component 3 from this drawing, the Examiner asserts that one of ordinary skill in the art would not be able to infer the precise thickness of the reflector 22 shown in FIG. 6, because a single figure being of scale does not imply that all other figures must be of scale. See also MPEP 2125.

8. Applicant’s amendments and corresponding arguments have overcome the previous rejections made under 35 U.S.C. 103(a). Therefore, the rejections have been withdrawn.

### ***Conclusion***


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer A. Leung whose telephone number is (571) 272-1449. The examiner can normally be reached on 9:30 am - 5:30 pm Monday through Friday.


If attempts to reach the examiner by telephone are unsuccessful, the examiner’s supervisor, Glenn A. Caldarola can be reached on (571) 272-1444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jennifer A. Leung

May 4, 2006 

  
ALEXA DOROSHENK NECKEL  
PRIMARY EXAMINER